

## AMENDMENTS TO THE CLAIMS

Claims 1-6, 8-11, 13-21, and 23 are pending. No claims have been amended, canceled, added, or withdrawn.

The following listing of claims replaces all prior versions, and listings of claims in the application.

### Listing of Claims:

1. (Previously presented) A method to be implemented in a computer system comprising a processor and a memory, the method for managing a run queue comprising a first plurality of threads sorted with respect to one another based on thread priority, the method comprising:

in a deterministic amount of time equivalent to an amount of time to insert a single thread into the run queue, associating a second plurality of threads that is priority sorted with the run queue in a manner that maintains a priority based scheduling semantic of the run queue.

2. (Previously presented) A method as recited in claim 1, wherein the second plurality of threads comprises a root thread, and wherein associating the second plurality of threads with the run queue further comprises inserting only the root thread into the run queue.

1           3.     (Previously presented) A method as recited in claim 1, wherein the  
2 associating the second plurality of threads with the run queue further comprises  
3 inserting each thread in the second plurality of threads into the run queue  
4 independent of any additional other queue access.  
5

6           4.     (Previously presented) A method as recited in claim 1, wherein  
7 associating the second plurality of threads with the run queue further  
8 comprises inserting only a root thread of the second plurality of threads into the run  
9 queue.  
10

11           5.     (Previously presented) A method as recited in claim 1, wherein  
12 associating the second plurality of threads with the run queue further comprises:

13                 inserting only a root thread of the second plurality of threads into the run  
14 queue; and

15                 wherein the method further comprises:

16                         removing the root thread from the run queue; and

17                         responsive to removing the root thread, inserting a next thread of the  
18 second plurality of threads into the run queue such that the priority based  
19 scheduling semantic of the run queue is preserved.  
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1           6.     (Previously presented) A method as recited in claim 1, wherein the  
2 method further comprises:

3                 inserting a root thread of the second plurality of threads into the run queue;  
4                 removing the root thread from the run queue for execution; and  
5                 responsive to removing the root thread and independent of any additional  
6 other queue access, inserting a next thread of the second plurality of threads into  
7 the run queue.

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9           7.     (Canceled).

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11           8.     (Previously presented) A system for managing a run queue, the run  
12 queue comprising a first plurality of threads, each thread in the first plurality of  
13 threads having a respective priority, the first plurality of threads being sorted such  
14 that a thread having a high priority is removed from the run queue before a thread  
15 having a lower priority, the system comprising:

16                 a memory for storing the run queue and computer-executable instructions;  
17                 a processor operatively coupled to the memory, the processor being  
18 configured to execute the computer-executable instructions for:

19                         in an amount of time to insert a single thread into the run queue,  
20 associating the second plurality of threads that is priority sorted with the run  
21 queue, the associating maintaining a priority based scheduling semantic of the run  
22 queue.

1           9.     (Previously presented) A system as recited in claim 8, wherein  
2 associating the second plurality of threads with the run queue is performed  
3 independent of more than a single other queue access.  
4

5           10.    (Previously presented) A system as recited in claim 8, wherein the  
6 second plurality of threads comprises a root thread operatively coupled to one or  
7 more other threads of the second plurality of threads, each of the one or more other  
8 threads having a respective priority that is a lower priority or an equal priority as  
9 compared to a priority of the root thread.  
10

11          11.    (Previously presented) A system as recited in claim 8, wherein  
12 associating the second plurality of threads with the run queue further comprises  
13 inserting only a root thread of the second plurality of threads into the run queue.  
14

15          12.    (Canceled).  
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17          13.    (Previously presented) A system as recited in claim 8:  
18 wherein the first plurality of threads is a first linked list data structure;  
19 wherein the second plurality of threads is a second linked list data structure  
20 comprising a root node that is operatively coupled to one or more other threads in  
21 the second plurality of threads; and

22          wherein the single insert operation is an operation comprising inserting the  
23 root node into a position in the first linked list data structure.  
24  
25

1           14.   (Previously presented) A system as recited in claim 8, wherein  
2 associating the second plurality of threads with the run queue further comprises:  
3           inserting only a root thread of the second plurality of threads into the run  
4 queue; and  
5           wherein the method further comprises:  
6                 removing the root thread from the run queue; and  
7                 responsive to removing the root thread, inserting a next thread of the  
8 second plurality of threads into the run queue such that a priority based scheduling  
9 semantic of the run queue is preserved.

10  
11           15.   (Previously presented) A system as recited in claim 8, wherein the  
12 processor is further configured to execute computer program instructions for:  
13           inserting a root thread of the second plurality of threads into the run queue;  
14           removing the root thread from the run queue for execution; and  
15           responsive to removing the root thread and independent of any additional  
16 other queue access, inserting a next thread of the second plurality of threads into  
17 the run queue.

1           16. (Previously presented) A computer-readable storage medium  
2 comprising computer-program instructions to manage a run queue of executable  
3 threads sorted with respect to one another based on thread priority, the computer-  
4 program instructions being executable by a processor for:

5           in a deterministic amount of time that is independent of the number of  
6 threads in a second plurality of threads that is priority sorted, the deterministic  
7 amount of time being a time to insert a single thread into the run queue,  
8 associating the second plurality of threads with a first plurality of threads in the  
9 run queue in a manner that maintains a priority based scheduling semantic of the  
10 run queue.

11  
12           17. (Previously presented) A computer-readable storage medium as  
13 recited in claim 16, wherein the second plurality of threads comprises a root thread  
14 that is operatively coupled to one or more other threads of the second plurality of  
15 threads, and wherein the computer-program instructions for associating further  
16 comprise instructions for inserting only the root thread into the first plurality of  
17 threads.

18  
19           18. (Previously presented) A computer-readable storage medium as  
20 recited in claim 16, wherein the first plurality of threads is a first linked list data  
21 structure, the second plurality of threads is a second linked list data structure  
22 comprising a root node that is operatively coupled to one or more other threads in  
23 the second plurality of threads, and the deterministic amount of time is a result of a  
24 single insert operation to insert the root node into the first linked list data structure.  
25

1           19. (Previously presented) A computer-readable storage medium as  
2 recited in claim 16, wherein the computer-program instructions for associating  
3 further comprise instructions for:

4           inserting only a root thread of the second plurality of threads into the first  
5 plurality of threads;

6           and wherein the computer-program instructions further comprise  
7 instructions for:

8                 removing the root thread from the run queue; and

9                 responsive to removing the root thread, inserting a next thread of the  
10 second plurality of threads into the first plurality of threads in a manner that  
11 maintains a priority based scheduling semantic of the run queue.

12  
13           20. (Previously presented) A computer-readable storage medium as  
14 recited in claim 19, wherein the computer-program instructions for inserting the  
15 next thread are performed independent of an other queue.

16  
17           21. (Previously presented) A computer-readable storage medium as  
18 recited in claim 16, wherein the computer-program instructions for associating  
19 further comprise instructions for:

20           inserting a root thread of the second plurality of threads into the first  
21 plurality;

22           removing the root thread from the first plurality of threads for execution;

23           and  
24  
25

1 responsive to removing the root thread, inserting a next thread of the  
2 second plurality of threads into the first plurality of threads independent of any  
3 additional access to another different queue.

4  
5 22. (Canceled).

6  
7 23. (Previously presented) A computer-readable medium comprising  
8 computer-program instructions executable by a processor for:

9 managing a run queue with a run queue data structure, the run queue data  
10 structure comprising:

11 a first dimension data field comprising a first plurality of threads  
12 sorted with respect to thread priority; and

13 a second dimension data field comprising a second plurality of  
14 threads sorted based on thread priority, the second plurality of threads comprising  
15 a root thread and one or more other threads.

16  
17 24. (Canceled).